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BOTANICAL GAZETTE.

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BAPTISIA CALYCOSA, n. sp.—Whole plant smooth except that the mucronate leaflets, stipules, bracts and calyx lobes are sparsely ciliate with long white hairs; stem and slender straight branches somewhat glaucous; stipules lanceolate, acute, persistent, 3-7 ribbed, half as long as the short petioled leaves, the sessile leaflets oblanceolate or obovate, obtuse; racemes terminating the branches, long and loose, the long (1-2 inches) and slender pedicels subtended by ovate lanceolate persistent bracts and also bibracteolate above the middle; calyx tube short, about one-fourth the length of the lanceolate spatulate foliaceous lobes, which are but little shorter than the yellow flowers. Legumes and base of stem not seen.

Dry pine barrens, St. Augustine, Florida.

Collected by Miss Mary C. Reynolds who has distributed many of the rare plants of that vicinity. Most nearly allied to *B. Lecontei*, Torr. & Gray, but abundantly distinct from that and other species and remarkable for the ciliate foliage and more especially for the foliaceous calyx lobes.—WM. M. CANBY, *Wilmington, Del.*

A review of the genus being desirable, specimens of all species in flower and fruit will be thankfully received and, if desired, returned. Those from the South and South-West are especially asked for.—W. M. C.

BAPTISIA SULPHUREA, n. sp.—Simple with spreading branches, glabrous; leaves on very short petioles, leaflets obovate, somewhat rhombic, obtuse or occasionally emarginate; stipules small, lanceolate, sub-persistent; spikes rather short with deciduous bracts and sulphur yellow spreading flowers; pedicels shorter than the broad campanulate calyx; broad ovate acutish teeth shorter than tube, woolly inside; style much longer than oval ovary (5 lines long); stipe of globose pod exsert.

Prairies, Tabaksi county, collected by Mr. Geo. D. Butler, rare, flowers in May. Indian Territory. *B. leucantha* differs by its larger growth, deciduous stipules, longer spikes of white flowers which open much later, and longer pedicels, short style (3 lines long) about as long as the linear ovary. *B. sphaerocarpa* is well distinguished from our new species by its caespitose growth, more erect branches, strict spikes with erect deep yellow flowers, pedicels shorter than calyx, the lobes of which are triangular lanceolate, very acute, as long as the narrower tube, and sparingly woolly inside; style much longer than the oval ovary (6 lines long); stipe of pod scarcely longer than calyx. The new species being exactly intermediate between the two just mentioned suggests the idea of hybridity.—GEO. ENGELMANN.

A LIST OF SOME OF THE MOST INTERESTING SPECIES OF PLANTS COLLECTED IN THE INDIAN TERRITORY; BY GEO. D. BUTLER.—[When the locality is not mentioned it is Limestone Gap.]

Oenothera Pitcheri, T. & G. Thickets.

Anemone Caroliniana, Walt. Common in prairies.

Ranunculus pusillus, Poir. Pools, not uncommon.

Delphinium azureum, Mx. Flowers white with a brown or greenish eye, never blue in this region; leaves thicker, and their divisions narrower than in Iowa specimens. (*D. virescens*? Nutt.). Prairies, common.

Cocculus Carolinus, DC. Common.

Galyocarpum Lyonii, Nutt. Rather rare.

Corydalis aurea, Willd., var. *micrantha*, Engelm. Agrees with the exception that the flowers are large, as in the normal *C. aurea*. Rare, growing in very rich soil.

Corydalis crystallina, Engelm. Prairie knolls, common.

Nasturtium tanacetifolium, H. & A. Thickets and fence rows.

Nasturtium sinuatum, Nutt. Arkansas river, rare.

Erysimum asperum, DC., var. *Arkansanum*, Nutt. Limestone.

Selenia aurea, Nutt. 2-6 inches high; flowers abundant and large for the family. Sulphate flats in early spring, rare.

Draba cuneifolia, Nutt. Limestone.

Oleomella angustifolia, Torr. Roadsides, apparently introduced.

Oleome pungens, Willd. Fort Smith, introduced.

Viola pubescens, Ait., var. *eriocarpa*, Nutt. Alluvial woods.

Arenaria Pitcheri, Nutt. A variable species, usually smooth, with linear, fleshy leaves. Damp soil, common. A very pubescent and glutinous form which grows on dry prairie hills and is a month earlier, I have named var. *pubescens*. Leaves and calyx lobes wider and thinner.

Stellaria Nuttallii, T. & G. Sulphate flats.

Two *Sagineæ*: One common in prairies with decumbent stems, and petals spreading horizontally, (*S. decumbens*? Gr.); the other rare, on high timbered ridges, with erect stems and ascending petals, (*S. Linnæi*, Presl.).

Portulaca pilosa, L. Sulphate flats, rare

Talinum teretifolium, Pursh. Sulphate flats.

Callirrhoe digitata, Gr. Variable. The leaves are sometimes nearly entire; the white to purple flowers $\frac{1}{2}$ -2 inches in diameter; petals either entire or cut into a fringe. The large spindle-shaped to napiform roots form the chief subsistence of wild hogs during the spring months.

Callirrhoe pedata, T. & G. A month later, taller, and variable only in the size of the red purple flowers which are $\frac{3}{4}$ to 2 inches in diameter. Prairies and open woods.

Rhus Toxicodendron, L. Occurs as a vine climbing trees or rocks; as a shrub $\frac{1}{2}$ -1 foot high in dry woods; and as a shrub 4-8 feet high along rocky streams.

Rhus aromatica, Ait., var. *trilobata*, Nutt. Heavy scented, odor very disagreeable; flowers and fruit larger than in *R. aromatica*. Limestone cliffs. I believe it is poisonous.

Vitis æstivalis, Mx. The most common variety is the Post Oak Grape, which grows in sandy woods, climbing very little; berry ripe in June, as large as, and more pleasant to the taste than the Northern Fox Grape with which this has sometimes been confounded.

Sapindus marginatus, Willd. Banks of streams, uncommon.

Æsculus arguta, Buckley. May be a variety of *Æ. glabra*, but is pubescent, always shrubby, 2-8 feet high; leaflets 7, scarcely petioled. Openings in woods near banks of streams. Also in Wood county, Texas.

Trifolium reflexum, L. Arkansas river.

Trifolium stoloniferum, Muhl. Alluvial woods.

Hosackia Purshiana, Benth. Sulphate flats and dry woods.

Psoralea esculenta, Pursh. Dry sandy woods, rare.

Petalostemon multiflorus, Nutt. A month later than *P. candidus*. Limestone.

Robinia Pseudacacia, L. Here it is a shrub 4-8 feet high, flowering profusely.

Limestone.

Tephrosia onobrychoides, Nutt. Dry prairies.

Indigofera Anil, L. Introduced.

Sesbania macrocarpa, Muhl. Poteau river.

Astragalus caryocarpus, Ker. Limestone.

Astragalus Plattenensis, Nutt. Prairies.

Astragalus distortus, T. & G. Dry prairie hills.

Astragalus Nuttallianus, DC. A very small species, the earliest in bloom.

Vicia micrantha, Nutt. Forms a dense pubescent mat in open bare spots, but in thickets it is a delicate little vine, seldom climbing more than a foot.

Lathyrus pusillus, Ell. This is the form which has been named *L. Engelmanni* in Europe. Thickets and damp prairies.

Phaseolus diversifolius, Pers. Dry woods.

Phaseolus pauciflorus, Benth. Dry woods.

Baptisia australis, R. Br. Prairies.

Baptisia leucophea, Nutt. Prairies.

Baptisia leucantha, T. & G. Prairies.

Baptisia sulphurea, Engelm., *n. sp.*, Bot. GAZETTE, Vol. III, p. 65. Prairies Tabaksi county, rare, flowers in May.

Baptisia sphaerocarpa, Nutt. In patches, 1-3 feet high, unchanged in drying. Legume variable in shape, prairies.

Baptisia villosa, Ell., at least as to Nuttall's Arkansas plant, see Torr. & Gr. Fl. 1, p. 384. Stem short, with spreading branches; branches and leaves villous, the younger ones silky; leaves on petioles 3 lines long; leaflets oblanceolate to obovate-oblong, with wedge-shaped, attenuated base, obtuse, the lower ones 2-3 inches long; stipules foliaceous, $\frac{3}{4}$ -1 $\frac{1}{2}$ inches long and $\frac{1}{4}$ inch wide, persistent, lanceolate, acute; bracts caducous; flowers yellow, borne in short terminal racemes, on erect pedicels 3-6 lines long; calyx teeth triangular lanceolate, nearly as long as the turbinate tube; ovary hairy; fruit unknown. Near *B. lanceolata*. Prairies, Tabaksi county, rare.

Cassia obtusifolia, L. Fort Smith, introduced.

Schrankia runcinata, Willd. Prairies, common.

Desmanthus brachylobus, Benth. Prairies and woods.

Acacia lutea, Lea. Sulphate flats.

Acacia hirta, Nutt. Limestone.

Prunus Chicusa, Mx. Thickets.

Prunus Chicusa, Mx., var. TEXANA, Engelm. (*P. Texana*, Scheele.) Leaves ovate, acuminate, pubescent, with closely appressed, incurved, glandular serratures, 1 $\frac{1}{2}$ -2 $\frac{1}{2}$ inches long; peduncles 4 lines long; calyx pubescent; drupe globose, small, 6-7 lines in diameter, red. A shrub 1-2 $\frac{1}{2}$ feet high, growing in patches in prairies. It blooms about April 1st. Fruit ripens about July 1st, but is seldom produced. ("More abundant and larger in Texas. *P. rivularis*, Scheele, is another form of *P. Chicusa* undistinguishable from this." Engelmann.)

Prunus gracilis, Eng. and Gr. Pl. Lindh. 1, p. 36. With thicker, broader and often obtusish leaves, $\frac{3}{4}$ -1 $\frac{1}{2}$ inches long and $\frac{1}{2}$ -1 inch broad, with spreading mucronate teeth (or nearly so) above, paler, reticulated and downy beneath; drupe globose, 6 lines in diameter; stone thick, rather blunt, with a protuberant, thick and rounded margin. A shrub 1 $\frac{1}{2}$ -2 feet high. Sandy woods and prairies, rare. Very near the north-eastern *P. maritima*.

Gillenii stipulacea, Nutt. Common.

Sanguisorba annua, Nutt. Sulphate flats, where it is erect and simple or sparingly branched; fields, where it is decumbent and much branched.

Rosa setigera, Mx. Common.

Rosa Carolina, L. Arkansas river.

Rosa lucida, Ehrh. (*R. parviflora*, Ehrh.) Dry woods, scarce.

Rosa foliolosa, Nutt. Subterranean stems stoloniferous and widely spreading; erect branches a foot high or less, bearing in the first year a single or sometimes 2 or 3 flowers and generally dying down to the base; large pod depressed-globose, like the

short peduncle usually with a few gland-bearing bristles, its calyx lobes erect or slightly spreading, at last deciduous, bristly glandular, the outer somewhat pinnatifid. Dry open woods and prairies.

Ribes aureum, Pursh. Limestone cliffs.

Saxifraga Virginensis, Mx. The plant occurring in Atoka county is low (1-3 inches high), the capsule mostly 3-beaked, flowers clustered even in fruit. Wet prairies, common. The normal form occurs on Arkansas river.

Sedum sparsiflorum, Nutt. Sulphate flats, common. Annual.

Gaura sinuata, Nutt. Sulphate flats.

Oenothera rhombipetala, Nutt. Arkansas river.

Oenothera speciosa, Nutt. Rich prairies, whether limestone or not. Rather common.

Oenothera serrulata, Nutt. Prairies, rare.

Oenothera linifolia, Nutt. Sulphate flats.

Mentzelia oligosperma, Nutt. Limestone cliffs.

Mammillaria Nuttallii, Engelm. Dry hills in prairies.

Melothria pendula, L. Fort Smith.

Daucus pusillus. Sulphate flats and dry woods. Common.

Trepocarpus Aethusa, Nutt. Has the strong odor of carrot throughout. Fruit large. Thickets, not uncommon.

Polytenia Nuttallii, DC. Prairies, common.

Peucedanum foeniculaceum, Nutt. Dry ridges. Mostly in limestone where it is common.

Cynosciadium pinnatum, DC. Leaves mostly lanceolate and nearly entire. Large specimens have some of the leaves pinnate. Pools, rather common.

Apium (Anosclinum) Popei, (Gray). Sulphate flats where it is 1-2 inches high, and thickets where it is 4-6 inches high, common. Umbels oppositifoliate.

Apium (Leptocaulis) patens, (Gray). Arkansas river.

Apium (Leptocaulis) divaricatus, (Gray). Blue county.

Cherophyllum procumbens, Lam. Very common.

Osmorrhiza longistylis, DC. Alluvial woods, rare.

Symphoricarpus vulgaris, Mx. Very common.

Galium virgatum, Nutt. Limestone bluffs, uncommon.

Fedia radiata, Mx. Very common.

Fedia longiflora, T. & G. Tube of the corolla rose-purple, the limb white; flowers larger than in any other of our Fedias. Limestone cliffs.

Fedia Nuttallii, T. & G. Flowers also large, but narrower than in *F. longiflora*; bracts variable, entire or red ciliate. Readily distinguished from any other species by a curious spur like appendage on the side of the corolla tube. Springy places and sulphate flats.—[To be continued.]

FRESH WATER ALGÆ.—The question is often asked, Why are there so few who engage in the study of the Fresh Water Algæ? Is it devoid of interest? The Algæ are ranked as a higher order of plants than the Fungi and the Lichens, yet of these there are numerous students; if they find so much to interest, the Algæ ought to claim at least an equal share of attention. Specimens may be collected in almost all localities in common with other forms of Cryptogamic plants, and they are found at all seasons of the year. Early spring brings forth its varieties of livid green Higeocloniams and Mothrines which lived protected under the snow and ice during the vigorous cold of winter; and many varieties of Cacci, without protection maintain their perfect forms and colors; later, as the more genial sun reinvigorates the vegetable kingdom these small but perfect plants are developed everywhere in places supplied with sufficient mois-